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ABSTRACT

A study was undertaken to determine the relationship between word recognition and comprehension achieved by second and fifth grade students using reading material at various levels of readability. The testing instrument used was the Spache Diagnostic Reading Scale containing levels from primer through eighth grade. A pilot study provided a coefficient of reliability for the word recognition and comprehension questions. A sample of 25 second- and 25 fifth-graders from three elementary schools were administered the diagnostic scale. Pearson product-moment coefficients of correlation were calculated between word recognition and comprehension and tested for significance. Chance correlations suggested that no relationship existed between word recognition and comprehension for either group of subjects. Future research should be conducted using larger samples at different grade levels. (Six tables of data and 29 notes are included; 29 references, a letter to parents, a list of words for word recognition, reading passages and comprehension questions, an appendix of data, and a sample calculation of percentages of word recognition and comprehension are attached.) (Author/RS)

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ED 360 618

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A STUDY OF THE RELATIONSHIP BETWEEN WORD RECOGNITION AND COMPREHENSION IN SECOND AND FIFTH GRADE STUDENTS

A Thesis

Presented to

the Faculty of Salem College

In Partial Fulfillment

of the Requirement for the Master of

Arts in Education Degree

by

Nancy Coffman

August, 1982

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TABLE OF CONTENTS

Page

ABSTRACT. i

ACKNOWLEDGEMENTS. ii

LIST OF TABLES. iii

INTRODUCTION. iv

CHAPTER 1:

The Statement of the Problem. 1

The Subproblems 1

The Hypotheses. 1

The Limitations 2

The Definitions of Terms. 2

Assumptions 4

The Importance of Study 4

CHAPTER 2:

REVIEW OF RELATED LITERATURE. 6

CHAPTER 3:

METHODS OF PROCEDURES 14

CHAPTER 4:

ANALYSIS OF THE DATA. 21

CHAPTER 5:

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS. 31

Summary 31

Conclusions 31

Recommendations 32

Implications for Future Research. 32

BIBLIOGRAPHY. 34

APPENDIXES:

A. Letter Requesting Permission for Testing. . . 37

B. Word Recognition List 38

C. Reading Passages and Comprehension Questions 39

D. Test Reliability and Validity Tables. 45

E. Test Norm Table for Word Recognition and Grade Level Table for Comprehension 46

F. Calculating Percentages of Word Recognition and Comprehension 47

A B S T R A C T

This study was undertaken to determine the relationship between word recognition and comprehension achieved by second and fifth grade students using reading material at various levels of readability.

The testing instrument used was the Spache Diagnostic Reading Scale containing levels from primer through eighth grade. A pilot study provided a coefficient of reliability for the word recognition and comprehension questions.

A sample of twenty-five second and twenty-five fifth graders was taken from three elementary schools to whom the diagnostic scale was administered.

Pearson product-moment coefficients of correlation were calculated between word recognition and comprehension and tested for significance. Chance correlations suggested that no relationship existed between word recognition and comprehension for either group of subjects.

Conclusions and recommendations in Chapter 5 are made based on the results of the study. Also, educational implications are discussed with suggestions for future research.

TABLES

T A B L E S

Table		Page
1.	The Correlations Between Word Recognition and Comprehension for Second Grade Subjects.	25
2.	The Correlations Between Word Recognition and Comprehension for Fifth Grade Subjects	25
3.	The Correlations Between Word Recognition and Comprehension for Second and Fifth Grade Subjects	27
4.	Population Range and Mean CTBS Scores.	28
5.	Range, Median, and Mean Scores of Word Recognition and Comprehension for Second Grade Subjects.	29
6.	Range, Median, and Mean Scores of Word Recognition and Comprehension for Fifth Grade Subjects	30

I N T R O D U C T I O N

The importance of reading in our modern schools is verified by the amount of research that has been devoted to it. Over the past seventy years, no single problem has received more attention from the educational and psychological laboratories than the problem of understanding the reading process.[1]

Considering all the research that has been done, relatively little is known about how individual children learn to read. Recent researchers are in agreement that reading is not composed of one skill, but many interrelated skills that are developed over a period of years.[2] Just exactly what these skills are and how they are interrelated is not entirely known.

The majority of the research that has been conducted concerning reading has been directed toward determining whether one teaching method will produce better results than another.[3] Questions have been raised concerning some of the designs of these studies; however, the results

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[1]Emerald V. Dechant and Henry P. Smith, Psychology in Teaching Reading (New Jersey: Prentice Hall, 1977), p. 1.

[2]Grayce A. Ransom, "Reading as Multi-Faceted Communication," Preparing to Teacher Reading (Boston: Little Brown and Co., 1978), pp. 3-22.

[3]Jeanne Chall, "Research in Linguistics and Reading Instruction for Future Research and Practice." Reading and Realism, J. Allen Figurel, ed. (Vol. 13, International Reading Association Conference Proceedings, 1969), pp. 560-571.

have been helpful in learning that a multi-faceted approach is necessary in teaching reading.[4]

Knowledge concerning the reading process is fragmented and definitive conclusions have not been reached to create a comprehensive model of the process. There are possibly two reasons for this. The first reason is the complexity of the process. The second reason is the limitations of our research instruments. However, these difficulties have not slowed the research process. Much of the knowledge available centers around two major aspects - word recognition and comprehension.

Word recognition and its relationship to comprehension has been of interest to reading authorities for some time. However, much of the information has been based upon custom and general practice rather than research into the reading process. Questions remain unanswered. This study is an attempt to answer some of these questions.

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[4]Grayce A. Ransom (1978), op. cit., pp. 3-22.

CHAPTER 1

The Statement of the Problem

The purpose of this research project is to determine the relationship between word recognition and comprehension achieved by second and fifth grade students using reading material at various levels of readability.

The Subproblems

1. The First Subproblem. What is the relationship between word recognition and comprehension for elementary school children and how does the relationship vary according to the readability level of the material?

2. The Second Subproblem. Does the relationship between word recognition and comprehension differ for primary grade children when compared to intermediate grade children?

The Hypotheses

The first hypothesis is that there will be a significant difference between test scores in word recognition and comprehension of the students in this study as measured by the Spache Diagnostic Reading Scales. A positive correlation of the testing results taken at various levels of readability will indicate a significant relationship between word recognition and comprehension in reading.

The second hypothesis is that there will be a significant difference between test scores in word recognition and

comprehension of the students in this study as measured by the Spache Diagnostic Reading Scales. A correlation of testing results at both the primary and intermediate grade level with the comparison of the two grade levels will indicate a significant relationship between word recognition and comprehension in reading.

The Limitations

There is no intent in this study to compare the reading levels or abilities of students; to rate the instruction of the teachers; or to rate the schools or the school systems. The student population will be limited to the second and fifth grade students at three elementary schools whose enrollments prohibited random selection.

The Definitions of Terms

Reading Comprehension. A reading skill which includes: Linguistic comprehension--understanding and using with flexibility the various sentence patterns of English; working with the elements of such patterns in modeling and experimental ways that open to the student the beauty and precision of oral and written language; and
Cognitive and affective comprehension--listing or reading to include and move beyond literal understanding, thus developing abilities in organizing, analyzing, sythesizing, evaluating, and responding creatively to oral and printed messages.

Word Recognition. A reading skill which is the ability to determine the pronunciation of a printed word through the use of (1) memory, (2) contexts, (3) phonics (knowledge of sound-symbol relationship), (4) structural analysis (recognizing the forms of word parts), or (5) a combination of these four processes.

Reading Model. A representation of the reading process in model form; an operational definition of a reading theory.

Basal Reader. A reading book series traditionally leveled to fit each grade in the elementary school.

Language Experience. An approach to reading instruction which transcribes the child's oral language for the purpose of helping him/her to read.

Informal Reading Inventory (I.R.I.). A nonstandardized measuring instrument constructed to discover a student's achievement in all phases of reading.[5]

Readability Formula. Formula applied to content material for the purpose of determining the level of reading difficulty.

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[5]Eddie C. Kennedy, Classroom Approaches to Remedial Reading (Illinois: Peacock Publisher, 1971), p. 24.

Assumptions

The First Assumption. The first assumption is that the testing instrument used to measure word recognition and comprehension is appropriate for the grade level and population of the students.

The Second Assumption. The second assumption is that the results of the testing will accurately reflect the word recognition and comprehension ability of each student.

The Third Assumption. The third assumption is that the Pearson product-moment coefficient of correlations is a reliable measure of any significance found between word recognition and comprehension.

Importance of the Study

Reading is a key to success in and out of school. Dechant and Smith agree that as our culture becomes more complex, reading plays an increasingly greater role in satisfying personal needs and in promoting social awareness and growth. Through reading we acquire many of our standards of behavior and morality. As Aldous Huxley points out, "Every man who knows how to read has it in his power to magnify himself, to multiply the ways in which he exits, to make his life full, significant and interesting." But, above all, in the modern school, effective reading is the most important avenue to effective learning.[6]

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[6]Dechant and Smith (1977), op. cit., pp. 1-3.

Reading is so interrelated with the total educational process that educational success requires successful reading. Increasing the reading abilities of students, the development of these abilities, and the methods used to determine them, are an important part of any future educational process. This study should provide some insight into the relationship between two of the most important basic skills in the reading process--word recogntioin and comprehension. Research in this area may provide additional aid to educators who seek to improve methods of reading instruction.

CHAPTER 2

REVIEW OF RELATED LITERATURE

A Historical Overview

The nature of the reading process is too complex for a brief history of the available research to be compiled. Even within any one of the three major subdivisions--sociology, psychology, and pedagogy--a great diversity can be identified.

Reviewing the literature concerned with the reading process makes it clear that many disciplines have contributed to our knowledge of the complexities of the task. Clymer stated, "The areas of perception, psychology of learning, linguistics, social psychology, and language learning are a few of the fields contributing to an understanding of the reading process and the reading program."[7] From these many contributions, reading authorities have attempted to define the process. The task of defining reading would seem to be a simple one. However, the very complexity of the task makes it improbably that a simple definition could adequately include all the facets.

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[7]Theodore Clymer, "Current Conceptions of Reading," Innovation and Change in Reading Instruction, ed. Helen Robinson, the Sixty-Seventh Yearbook of the National Society for the Study of Education (Chicago: University of Chicago Press, 1968), p. 8.

By examining some widely quoted definitions of reading, one can conclude that experts show considerable variance in their conceptions of reading.[8] However, one can observe that most tend to over-simplify this complex task. Just how complicated the process is can be found in Thorndike's work of 1917 when he attempted to show that reading is akin to thinking.[9] Extending this conception of reading, Gates stated, "It should be developed as a complex organization of the higher mental processes. It can and should embrace all types of thinking, evaluating, judging, imagining, reasoning, and problem-solving.[10]

The Reading Model

Models have been used extensively as another means of defining the reading process. The creators of models of reading have attempted to set forth in more depth and with greater detail the nature of the reading act. One basic assertion they have made is that models are a vital part of the instructional process even when teachers are not con-

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[8]Kenneth S. Goodman, "Behind the Eye: What Happens in Reading." Reading Process and Program, eds. Kenneth S. Goodman and Olive S. Niles (Urbana, Illinois: National Council of Teachers of English, 1970), pp. 1-7.

[9]Edward L. Thorndike, "Reading as Reasoning: A Study of Mistakes in Paragraph Reading," The Journal of Educational Psychology (VIII, No. 6, June, 1979), p. 323.

[10]Arthur E. Gates, Character and Purpose of the Yearbook," Reading in the Elementary School, ed. Henry B. Nelson, the Forty-Eighth Yearbook of the National Society for the Study of Education (Chicago: University of Chicago Press, 1949), p. 3.

sciously aware of their presence.[11] Harste and Burke (1977) have conducted a series of studies observing how teachers work with models. They conclude that every teacher (and also every child) carries an implicit model of reading around in his/her head, and that this model can be discovered through observation. One of the purposes of the Harste and Burke studies is to bring teachers to the point of recognizing consistencies and inconsistencies between their goals for reading instruction and the means they use to achieve these goals.[12] Ultimately, the teacher should be able to articulate and make explicit whatever implicit models seem to guide teaching behaviors and students' learning behaviors. Much of the effort expended in modeling the reading process has come from the research of

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[11]David P. Pearson and Michael L. Kamil, "Basic Processes and Instructional Practices in Teaching Reading." Reading Education Report No. 7 (Massachusetts: Bolt, Beranek and Newman, Inc., 1978), pp. 3-5.

[12]J. C. Harste and C. L. Burke. "A New Hypothesis for Reading Teacher Research. Both the Teaching and Learning of Reading are Theoretically Based. ed. P. D. Pearson, Reading: Theory, Research and Practice, Twenty-Sixth Yearbook of the National Reading Conference (Clemson, South Carolina: National Reading Conference, 1977), pp. 28-30.

Singer and Ruddell[13], and Davis[14]. They have studies the significance of model construction and use. These studies encompass the theory of careful as well as useful model construction.

In this report, "Alternative Models in Reading Comprehension," Kamil warns that great care should be taken in model construction and the subsequent evaluation of them. If the available tools are used correctly when the model is constructed or chosen, it will help to dictate the answers to many research and investigatory problems.[15] He emphasizes the importance of explaining as well as modeling the reading process with an eye on the relatinoship between theory and model, and what they have in common.

Perhaps one of the reading models most often referred to is the Gray skill model.[16] Gray surmised that an analysis of the available evidence sug-

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[13]Harry Singer, and Robert B. Ruddell, eds. Theoretical Models and Processes of Reading (Delaware: International Reading Association, 1976), pp. 5-21.

[14]Frederick B. Davis, ed. The Literature of Research in Reading with Emphasis on Models (New Jersey: Graduate School of Education; Rutgers, 1971), pp. 3-15.

[15]Michael L. Kamil, "Alternative Models in Reading Comprehension," (paper presented at the Annual Meeting of the International Reading Association, Miami Beach, Florida, May, 1977), p. 12.

[16]William S. Gray, "The Major Aspects of Reading," Sequential Development of Reading Abilities, Helen M. Robinson, ed., Supplementary Educational Monographs No. 90 (Chicago: University of Chicago Press, 1960), pp. 22-32.

gested that the understandings, skills, and attitudes common to most reading activites could be classified under four headings: (1) word perception, (2) comprehension, (3) reaction and evaluation, and (4) assimilation.

Robinson, in a thoughtful analysis of Gray's skill model, revised his concept of reading.[17] She retained the four aspects of Gray's model, but presented two changes. She incorporated rates of reading and demonstrated the limitless opportunities for the development in the four original aspects. She discussesd the idea that rate of reading must be flexible and adjusted to the reading prupose and nature of the material.

This review could not possibly include all of the various theoretical models of reading. Gray and Robinson's models probably represent the ones referred to most in literature, and they deal with the two basic skills--word perception and comprehension which are the subjects of this research. The findings of earlier research in reading skills have supported a relationship to Gray's model.

Word Recognition--Comprehension

and the Reading Process

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[17]Helen M. Robinson, "The Major Aspects of Reading," Sequential Development of Reading Abilities, Helen M. Robinson, ed., Supplementary Educational Monographs No. 90 (Chicago: University of Chicago Press, 1960), pp. 22-32.

Lexier utilizes the premise that some of the strategies used to diagnose and correct word identification and comprehension disorders are based upon an overly simple analysis of reading and learning to read, rather than upon a contemporary understanding of the reading process.[18]

This premise is supported by reading research projects.[19] The focus of much of this research has centered on an attempt at constructing a performance model of the skilled reader and models of the reading acquisition process. Ideally, then, stages in the acquisition of this "behavior" can be observed and, along with development in cognition and language, more precise curricular decisions can be made.

Just how closely word recognition and comprehension are related and how to best use this relationship in an ideal model of classroom performance has been the subject of much research. While some reading experts have asumed that word recognition and comprehension are highly related as

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[18]Kenneth a. Lexier, "Common Oversimplifications of the Reading Process," Journal of Reading (April, 1978), p. 601.

[19]Doran Gil and Donald J. Freeman, "Diagnosis and Remediation of Reading Difficulties in the Classroom." Research Series No. 78 (East Lansing, Michigan: Michigan State University Institution for Research and Teaching, May, 1980), pp. 1-18.

Durrell concluded[20], other investigators have argued that the relationship is less substantial as did Wiener and Cromer.[21] In two recent studies, implicit support has been offered for the latter position. Both Cromer[22] and Guthrie[23] have concluded that there may be two types of disabled readers, one primarily deficient in wrod recognition skills and the other primarily deficient in comprehension. Studies such as those discussed have played a key role in helping to plan the type of models now in use.

Summary

A review of the research relating to the reading process revealed various and diverse theories. Each theory had leaders and supporters who researched the data and reported their results.

Reading models and theories have dominated a major part of recent educational research. Studies dealing with

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[20]Donald D. Durrell, "First-Grade Reading Success study: A Summary." Journal of Education, Vol. 140 (1968), pp. 2-6.

[21]Max Wiener and William Cromer, "Reading and Reading Difficulty: A Conceptual Analysis," Harvard Educational Review (Fall, 1967), pp. 620-643.

[22]William Cromer, "The Different Model: A New Explanation for Some Reading Difficulties." Journal of Educational Psychology (March, 1970), pp. 471-483.

[23]J. Guthrie, "Reading Comprehension and Syntactic Responses in good and Poor Readers," Journal of Educational Psychology (May, 1973), pp. 294-299.

word recognition and comprehension have yielded a large part of these findings. Research has contributed much data to the knowledge of the reading process. We can expect that research will continue as the search for understanding and improvement goes on.

CHAPTER 3

METHODS AND PROCEDURES

Population and Setting for the Study

This study was descriptive in nature and designed to investigate the relationship between word recognition and comprehension of second and fifth grade students.

The population available for the main study contained all of the second and fifth grade students in three elementary schools in Doddridge and Brooke Counties. Those levels were chosen to permit a comparison between primary and intermediate grade children. The study was conducted during the spring term, 1982, and included approximately 25 to 30 students from both second and fifth grades.

Although the population was taken from three different reading programs with three second grade teachers and three fifth grade teachers, the reading programs are very similar. The basic program is centered around a Basal Reader approach which was combined with a Language Experience approach at the first grade level. The latter approach was only continued at the second grade level with students who had difficulty in making normal progress. Fifth grade students had been instructed with several levels of basal readers from two or more basic reading series used continuously over a period of years. Teachers had followed the programs outlined in the teacher's manual and supple-

mented with their own planned program of teaching reading when they had felt it necessary. Second grade students had been exposed primarily to one basal series, but others had been used as supplementary material. There was continuity and coordination in the reading programs.

All three schools also have the state adopted Chapter I Reading Program as part of their planned program of reading instruction. Chapter I serves only those schools with higher than average enrollment of children from low income families. Students who participate in this program are behind their grade level in reading and are in greatest need as indicated by the C.T.B.S. (Comprehensive Test of Basic Skills) test and teacher recommendations. Chapter I employs reading specialists to provide individualized instruction to identified students. Help in reading is given in addition to regular classroom instruction. Part of the testing population were students who participated in this program.

As cited earlier, all the second and fifth grade students were included in the testing for the study. This provided a sampling of all levels of achievement.

In the appendix of this report is a copy of the letter which was sent to the parents of the children in this study to obtain permission for the research.

Collection of the Data

The data for this study came from two sources, the C.T.B.S. scores and the result of a reading inventory administered to each student. As a part of the school county-wide testing program, each student is given the Comprehensive Test of Basic Skills, Expanded Edition. This instrument was chosen and administered by the employees of the Doddridge and Brooke County Boards of Education. The C.T.B.S. norms were based upon national samples and the test material reflects "reasonable tasks for the basic skill achievement measures".[24]

For this study, a commercially prepared and validated reading inventory, rather than a teacher-made Informal Reading Inventory (I.R.I.) was considered to be a better testing instrument. The Spache Diagnostic Reading Scales were carefully selected from a field of testing instruments for the familiarity the students would have with the concepts and for the level of readability using the Spache[25] and Dale-Chall[26] formulas. The reading inventory was then evaluated by both Chapter I reading specialists who administered the test and by two reading

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[24]Oscar K. Burros, ed., The Eight Mental Measurements Yearbook, Vol. 1 (New Jersey: The Gryphon Pres, 1978), p. 44.

[25]George D. Spache, Good Reading for Poor Readers (Champaign, Illinois: Garrard Publishing Co., 1968).

[26]Edgar Dale and Jeanne Chall, "A Formula for Predicting Readability," Educational Research Bulletin, (Ohio State Bureau of Educational Research, XXVII, January 21 and February 17, 1948), pp. 11-20; 37-51.

teachers, both of whom had extensive background in the field of reading. The evaluation was designed to examine the suitability of the reading selections (interest and common concepts) and the comprehension questions (recall, inference, and critical evaluation). The test was then administered to five second and five fifth grade students chosen at random from the population. The purpose of the pilot study was to establish a coefficient of reliability and to determine if the selections and questions were appropriate. After three weeks, the test was again administered to the same subjects. The coefficient of reliability for the two groups of tests ranged from .942 for word recognition to .990 for comprehension.

In order to shorten the time needed to gather the research data and to eliminate researcher bias, both Chapter I reading specialists from the experimental schools were utilized in the administration of the Reading Inventory. The subjects were assigned to the examiners according to school, and the administratino of the inventory was made as uniformly as possible. All subjects began at the primer level and continued until they had read two consecutive levels in which their word recognition is eighty-five percent or less. This provided a good psychological situation for the subjects and still provided the necessary information sought by the researcher.

The word recognition percentage was computed from the oral selection. Mispronounced words, omitted words, inserted words, words that were reversed such as get to for to get, and words given by the examiner after a ten second delay were considered word recognition errors. However, any of these five types of errors that was corrected by the subject and any mispronounced words that were considered to be a result of the subject's dialect were not scored as errors.

The comprehension score were computed from the silent selection and all questions given equal weight. Partial answers were scored according to the amount of correctness. For example, if the questions required an answer containing two parts and the subject only gave one, the question was scored as half correct.

In order to make certain the scoring was reliable, all tests were scored by both examiners and any questionable scoring was resolved.

Pearson product-moment coefficients of correlation were computed between word recognition and comprehension for both grade samples of students. These correlations were then checked for significance. Results were calculated among the correlations for each sample and between second graders reading second level material and fifth graders reading fifth grade material.

A description of the diagnostic reading scales follows. Included in the appendices are samples of the word lists, reading passages, and comprehension questions; tables to show reliability and validity; a norm table for word recognintion and grade level table for comprehension[27]; and also calculated percentages of word recognition and comprehension.[28]

The Spache Diagnostic Reading Scale consists of a series of integrated tests, developed over a period of eight years to provide standardized evaluations of oral and silent reading skills and of auditory comprehension. The tests were designed to be employed in determining the proficiency of average and below average readers at elementary school levels.

The parts of the test battery used in this study consisted of three word recognition lists and 22 reading passages and comprehension questions of graduated difficulty.

The word lists were used to test the pupil's skills at word recognition and analysis, and to determine the level

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[27]George D. Spache, Diagnostic Reading Scales, Examiner's Manual and Examiner's Record Booklet (California, California Test Bureau/Division of McGraw-Hill Book Company, 1963), pp. 7-26; 3-24.

[28]Roger Farr and Nancy Roser, Teaching a Child to Read (New York: Harcourt Brace Joanovich, Inc., 1979), p. 49.

at which he/she should be introduced to the reading passages. Each of the three lists is standardized and graduated in difficulty. List 1 consists of fifty words, List 2 and 3 of 40 words each.

The 22 reading passages simulate the type and range of reading material that might be found in normal classroom reading assignments at levels ranging from mid-first grade to eighth grade.

CHAPTER 4

ANALYSIS OF THE DATA

This study was made for the purpose of investigating the relationship between word recognition and comprehension, and to determine what, if any, educational implications might be made as a result of the research findings.

The Spache Diagnostic Reading Scale was given to 25 second and 25 fifth grade students, taken from three elementary schools. The diagnostic scale was composed of oral and silent reading passages for the readability levels of primer through eighth grade. Subjects, assigned to one of two examiners according to school, began reading at the primer level and continued reading until they had read two consecuti e levels where either their word recognition was eighty-five percent or less, or their achieved comprehension was fifty percent or less.

Pearson product-moment coefficients of correlation were calculated between word recognition and comprehension, and checked for significance. The Pearson product-moment coefficients of correlations between word recognition and comprehension for second and fifth graders are shown in Table 3.

To determine if a relationship existed between word recognition and comprehension for second graders, those correlations taken from a sample size of 20 or more were

checked for significance. Samples with an N of less than 20 were not tested. Probability levels of .10, .05, and .01 were reported. However, since both the criteria of word recognition and comprehension can be vague concepts because they possibly consisted of a variety of factors, only the .01 probability can be considered as significant. Correlations for second graders are in Table 1.

The range and the median scores contained in Table 4 provide some explanation for the nonsignificant correlations. As the range of word recognition and comprehension scores increased for the primer through the second level of readability, the relationship between the two criteria became greater. This would suggest that the more difficult the readability level of the material, the higher the correlation.

There were two correlations for fifth graders that were significant at the .01 level of probability, being the second level of readability and the other being the fifth level of readability. This is shown in Table 2.

Here, also, an examination of the range, median and mean score provided some insight into the possible causes for these correlations. That information is contained in Table 6.

The difference in the range and median scores achieved at the primer and second level of readability show

that as the material became more difficult, the scores varied, resulting in a higher correlation. However, looking at the scores for the second level, one low set of scores could have possibly caused enough variance in the range to produce a significant correlation.

After the second level there was a smaller N, because some of the poorer readers were excluded from the testing, and there was less variance in the word recognition scores. This continued until the fifth level of readability when all subjects were again included in the testing and a statistically significant correlation was achieved. This would again suggest that the more difficult the material became the greater the relationship was between word recognition and comprehension.

Tests of differences among the correlation between word recognition and comprehension for both second and fifth graders were not computed since all the correlations but two were found to have occurred by chance.

To determine if a difference did exist between the correlations achieved by second graders reading second level material and fifth graders reading fifth grade material, at test using the Fisher Z transformation was utilized. At value of .5175 ($P > .10$) was obtained suggesting that no statistical difference existed at the .01 level of probability.

Tables 1 and 2

READABILITY LEVELS AND RELATIONSHIP BETWEEN WORD RECOGNITION AND COMPREHENSION

Hypothesis 1. The first hypothesis is that there will be no significant difference between test scores in word recognition and comprehension of the students in this study was measured by the Spache Diagnostic Reading Scales. A correlation of the testing results taken at various levels of readability will indicate there is a relationship between word recognition and comprehension in reading, therefore, the hypothesis is rejected.

The data to test the first hypothesis of this project are reported in table form.

Table 1

The Correlations Between Word Recognition and Comprehension for Second Grade Subjects

Level	N	R	P
P	25	-.185	>.10
1	25	.385	<.10
2	25	.452	<.05

Table 2

The Correlations Between Word Recognition and Comprehension for Fifth Grade Subjects

Level	N	R	P
P	25	.190	>.10
1	24	-.109	>.10
2	24	.536	<.01
3	21	.223	>.10
4	20	.368	>.10
5	25	.568	<.01

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Table 3

GRADE LEVELS AND RELATIONSHIP
BETWEEN WORD RECOGNITION AND COMPREHENSION

Hypothesis 2. The second hypothesis is that there will be no significant difference between test scores in word recognition and comprehension of the students in this study as measured by the Spache Diagnostic Reading Scales. A correlation of testing results at both the primary and intermediate grade level with the comparison of the two grade levels will indicate there is a relationship between word recognition and comprehension in reading, therefore, the hypothesis is rejected.

The data used to test the second hypothesis of this project are reported in table form.

Table 3

The Correlations Between Word Recognition and Comprehension for Second and Fifth Grade Subjects

	P		1		2		3		4	
Grade	N	R	N	R	N	R	N	R	N	R
2	25	-.185	24	.385	25	.452	14	.572	8	.348
5	25	.190	24	-.109	24	.536	21	.223	20	.368

	5		6		7		8	
Grade	N	R	N	R	N	R	N	R
2	6	.318	---	---	---	---	---	---
2	25	.568	15	.281	13	.676	12	.232

Table 4

Population Range and Mean CTBS Scores

		SEX				READING VOC.		READING COMP.	
Grade	No.	B	G	C.A.	Norm	Mean	Range	Mean	Range
2	25	10	15	7-10	2.8	Grade Level 2.8	1.2-6.8	Grade Level 2.5	1.2-6.8
5	25	13	12	11-12	5.6	Grade Level 5.2	1.6-9.4	Grade Level 5.2	1.4-10.1

C.A.: Chronological age in years

Norm: Grade-equivalent; grade-placement at which raw score is average

Mean: Arithmetic average of scores

Range: Distribution of scores; the range between scores

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Table 5

Range, Median, and Mean Scores of Word Recognition and Comprehension for Second Grade Subjects

Level	N	R	W.R.RNG.	COMP.RNG.	W.R.M.	COMP.M.	W.R.X	COMP.X
P	25	-.185	86-100	32-100	98.5	61.4	97.7	75.1
1	25	.385	64-100	12-80	92.3	30.4	91.3	43.4
2	25	.452	36-100	0-80	93.6	31.1	83.3	38.6
3	14	.572	82-100	15-75	96.5	40.5	95.9	39.4
4	8	.348	92-100	0-65	95.5	31.5	96.5	46.9
5	6	.317	88-98	20-60	89.5	40.5	94.5	39.2

Table 6

Range, Median, and Mean Scores of Word Recognition and Comprehension for Fifth Grade Subjects

Level	N	R	W.R.RNG.	COMP.RND.	W.R.M.	COMP.M.	W.R.$\bar{X}$	COMP.$\bar{X}$.
P	25	.190	94-100	30-100	95.9	70.3	98.1	77.4
1	24	-.109	76-100	10-90	99.5	31.3	98.0	48.7
2	24	.536	67-100	30-100	98.2	60.5	97.6	60.4
3	21	.223	95-100	30-100	98.5	60.8	97.9	61.6
4	20	.368	94-100	25-100	99.2	60.8	98.9	65.1
5	25	.568	24-100	0-90	96.4	45.9	92.5	46.6
6	15	.281	85-100	25-95	96.4	65.8	95.3	64.4
7	13	.676	94-100	25-100	97.7	51.0	97.5	57.7
8	12	.232	93-100	25-65	97.5	45.0	97.4	46.7

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The original questions that this study was designed to answer were: (1) What is the relationship between word recognition and comprehension for elementary school children; does this relatinoship vary according to the readability level of the material? and (2) Does this relationship differ for primary grade children when compared to intermediate grade children?

Within the limitations of the study, the following conclusions and recommendations were made:

Conclusions

1. The results of this study suggest strongly that there is no significant relationship between word recognition and comprehension of the student when reading material at various levels of readability except for fifth grade students reading fifth grade level material. This would suggest that possibly the more difficult the material became, the greater the chance that the relationship would be significant or that as chronological maturity increases, comprehension improved.

2. There is no significant relationship between word recognition and comprehension when comparing primary with intermediate grade students except for fifth grade students

reading fifth grade level material. Although other correlations did exist, they were chance relationships. However, it would be erroneous to conclude that the ability to pronounce the words in a given reading passage has no bearing upon comprehension. It may be safer to say that success in word recognition does not guarantee success in comprehension for either second or fifth grade students.

Recommendations

The following recommendations could help verify the results of this study:

1. A similar study should be conducted using a larger number of students.

2. A similar study should be conducted having the students attempt to read materials at the more difficult levels.

3. A similar study should be conducted using students from a larger sampling of schools.

4. A similiar study should be conducted using girls compared with boys the same age and grade level.

Implications for Future Research

In order to improve reading instruction, correlations between word recognition and comprehension need to be fully defined in terms of reading success and failure. There is a

need for identifying cause and effect relationships and to develop a reliable testing of these relationships.[29]

Although this research will provide some insight into the relationship between word recognition and comprehension, other research should be conducted using larger samples and at different grade levels. This information should be used in connection with future research to help clarify even further the role that readability has upon the relationship between word recognition and comprehension.

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[29]Janet Ross Kendall and Joyce Hood, "Investigating the Relationship Between Comprehension and Word Recognition: Oral Reading Analysis of Children with Comprehension or Word Recognition Disabilites." Journal of Reading Behavior (Spring, 1979), pp. 41-48.

B I B L I O G R A P H Y

B I B L I O G R A P H Y

Periodicals

Cromer, William. "The Different Model: A New Explanation for Reading Difficulties." Journal of Educational Psychology, March, 1970.

Dale, Edgar and Chall, Jeanne S. "A Formula for Predicting Readability." Educational Research Bulletin, Ohio State Bureau of Educational Research, XXVII, January and February, 1948.

Durrell, Donald D. "First-Grade Reading Success Study: A Summary." Journal of Education, Vol. 140, 1968.

Guthrie, J. "Reading Comprehension and Syntactic Responses in Good and Poor Readers." Journal of Educational Psychology, May, 1973.

Kendall, Janet Ross and Hood, Joyce. "Investigating the Relationship Between Comprehension and Word Recognition: Oral Reading Analysis of Children with Comprehension or Word Recognition Disabilities." Journal of Reading Behavior, Spring, 1979.

Lexier, Kenneth A. "Common Oversimplifications of the Reading Process." Journal of Reading, April, 1978.

Thorndike, Edward L. "Reading as Reasoning: A Study of Mistakes in Paragraph Reading." The Journal of Educational Psychology, June, 1971.

Wiener, Max and Cromer, William. "Reading and Reading Difficulty: A Conceptual Analysis." Harvard Educational Review, Fall, 1967.

Books

Burror, Oscar Krisen, ed. The Eight Mental Measurements Yearbook, Vol. 1, New Jersey: The Gryphon Press, 1978.

Clymer, Theodore. "Current Conceptions of Reading." Innovation and Change in Reading Instruction. ed., Helen Robinson. The Sixty-Seventh Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press, 1968.

Davis, Frederick B., ed. The Literature of Research in Reading with Emphasis on Models. New Jersey: Graduate School of Education: Rutgers, 1971.

BEST COPY AVAILABLE

Dechant, Emerald V. and Smith, Henry P. Psychology in Teaching. 2nd ed., Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1977.

Farr, Roger and Roser, Nancy. Teaching a Child to Read. New York: Harcourt Brace Jovanovich, Inc., 1979.

Gates, Arthur I. "Character and Purpose of the Yearbook." Reading in the Elementary School. ed., Henry B. Nelson. The Forty-Eighth Yearbook of the National Society for the Study of Educatoin. Illinois: University of Chicago Press, 1949.

Goodman, Kenneth S. "Behind the Eye: What Happens in Reading." Reading Process and Program. eds., Kenneth S. Goodman and Olive S. Niles. Urbana, Illinois: National Council of Teachers of English, 1970.

Gray, William S. "The M-jor Aspects of Reading." Sequential Development of Reading Ability. ed., Helen Robinson. Supplementary Educational Monographs No. 90. Chicago: University of Chicago Press, 1960.

Harste, Jerome C. anmd Burke, Charles L. "A New Hypothesis for Reading Teacher Research: Both the Teaching and Learning of Reading are Theoretically Based." Reading: Theory, Research and Practice. ed., P. D. Pearson. Twenty-Sixth Yearbook of the National Reading Conference, Clemson, South Carolina: National Reading Conference, 1977.

Kennedy, Eddie C. Classroom Approaches to Remedial Reading. Illinois: Peacock Publishers, 1971.

Ransom, Grayce A. "Reading as Multi-Faceted Communications." Preparing to Teach Reading. Boston: Little Brown and Co., 1978.

Robinson, Alan H., ed. Reading and Writing Instruction in the United States: Historical Trends. Illinois: Eric Clearinghouse on Reading and Communication Skills, 1977.

Robinson, Helen M. "The Major Aspects of Reading." Sequential Development of Reading Abilities. Supplementary Educational Monograph No. 90, Illinois: University of Chicago Press, 1960.

Spache, George D. Good Reading for Poor Readers. Champaign, Illinois: Garrard Publishing Co., 1968.

Spache, George D. Diagnostic Reading Scales. California: California Test Bureau/Division of McGraw-Hill Book Co., 1963.

ERIC Documents

Chall, Jeanne. "Research in Linguistics and Reading Instruction: For Future Research and Practice and Realism. U.S. Educational Resources Information Center, ERIC Document ED 068 704, May, 1969.

Gil, Doron and Freeman, Donald J. Diagnosis and Remediation of Reading Difficulties in the Classroom. U.S. Educational Resources Information Center, ERIC Document ED 192 247, May, 1980.

Kamil, Michael L. Alternative Models in Reading Comprehension. U.S. Educational Resources Information Center, ERIC Document ED 142 945, May, 1977.

Pearson, David P. and Kamil, Michael L. Basic Processes and Instructional Practices in Teaching Reading. U.S. Educational Resources Information Center, ERIC Document ED 165 118, December, 1978.

Singer, Harry and Ruddell, Robert B., eds. Theoretical Models and Processes of Reading, 2nd ed. U.S. Educational Resources Information Center, ERIC Document ED 124 919, 1976.

APPENDIX

Appendix A

Letter Requesting Permission for Testing

May, 1982

Dear Parent,

I will be attempting to conduct a study with second and fifth grade students on how children learn reading. This research is in conjunction with a masters degree program at Salem College, Salem, West Virginia.

The study will be limited to looking at relationships between reading skills and how they may affect reading achievement and will not be concerned with IQ of the children. In addition, the students' names will not be released and all matters will be handled in the strictest confidence.

If you are willing to grant permission for your child to participate in this educational venture, please sign this permission slip below and return it to your child's teacher.

Thank you.

Nancy Coffman

SPECIAL STUDY PERMISSION SLIP

My child may be included in the "Special Study" to be conducted in the second and fifth grade in May, 1982.

_____ _____

Child's Name Parent(s) or Guardian(s) Signature

_____

Date

Appendix B

WORD RECOGNITION

List 1

_____	1. look	_____	26. good
_____	2. come	_____	27. girl
_____	3. in	_____	28. name
_____	4. the	_____	29. away
_____	5. you	_____	30. this
_____	6. one	_____	31. bed
_____	7. she	_____	32. call
_____	8. mother	_____	33. time
_____	9. me	_____	34. sleep
_____	10. yellow	_____	35. fish
_____	11. pig	_____	36. morning
_____	12. it	_____	37. seen
_____	13. big	_____	38. children
_____	14. milk	_____	39. live
_____	15. dog	_____	40. around
_____	16. tree	_____	41. barn
_____	17. are	_____	42. other
_____	18. day	_____	43. under
_____	19. run	_____	44. cry
_____	20. all	_____	45. chicken
_____	21. father	_____	46. breakfast
_____	22. door	_____	47. chair
_____	23. like	_____	48. rain
_____	24. ball	_____	49. asleep
_____	25. eat	_____	50. peep

Total Score	Grade Score .....

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1A Time_____Errors (9)_____Comp (4)_____

Mary was on her way to school.
She came to the corner.
She saw a red light.
Then she saw the green light.
Then she went on to school.

1. What was the girl's name? *(Mary)*
2. Where was the girl going? *(to school)*
3. What did she see at the corner? *(red or red and green)*
4. What did she do when she got to the corner? *(she stopped or waited for green light)*
5. Why did she stop at the corner? *(red light was on or to wait for green light)*
6. Where did she cross the street? *(at corner or at light)*
7. Where did she go then? *(to school)*

1B Time_____Errors (9)_____Comp (4)_____

Bob had a dog.
The dog's name was Spot.
Spot had a big brown spot on his back.

Bob and Spot played together.
Bob threw a stick.
Spot ran after it.
They had fun together.

1. What was the boy's name? *(Bob)*
2. What did he have? *(a dog)*
3. What was the dog's name? *(Spot)*
4. Why was the dog called Spot? *(big brown spot)*
5. What did Bob and Spot do together? *(played)*
6. When they played, what did Bob do? *(threw stick)*
7. What did the dog do? *(ran after stick)*

2C Time_____Errors (10)_____Comp (4)_____

Mary was nearly hit by a car last week. She was on her way to school in the morning. She walked down our street to the corner. Mary looked both ways and then began to cross.

A car was coming down the street very quickly. Mary saw the car and ran the rest of the way.

The man in the car was angry because he had to put on the brakes.

Mary was afraid, but she was glad she wasn't hurt.

1. Where was Mary going? *(school)*
2. What happened to Mary? *(nearly hit by car)*
3. How long ago was this? *(few days or last week)*
4. What did she do when she came to the corner before she crossed? *(looked both ways)*
5. What did the driver of the car do? *(put on brakes)*
6. How did the driver feel? *(angry)*
7. How did Mary feel? *(frightened or glad)*

2D Time_____Errors (13)_____Comp (4)_____

Mary was playing alone at the rear of her hou
She was waiting for her father to return. He
going to bring her a birthday present. Then
heard a truck stop nearby. Quickly she ran arou
to the front.

There was a big truck with its back toward
house. She wondered whether it had brought
present. Her father opened the rear of the truck. (
walked a small brown and white pony. This was
birthday present.

1. Where was Mary playing? *(rear of house or b yard)*
2. What was she waiting for? *(father)*
3. What did she hear? *(truck stop)*
4. Then what did she do? *(ran to front of house)*
5. What did she see? *(truck)*
6. What was in the truck? *(pony)*
7. Why did her father bring Mary a pony? *(for bi day present)*

3A Time_____Errors (12)_____Comp (5)_____

Bob has a brown and white dog named Freckles. He is called Freckles because he has brown spots on his nose. Bob always takes Freckles on his trips to the woods. Freckles helps to scare up the rabbits. Bob walks slowly, but Freckles scampers through the leaves.

One day Freckles left Bob and went off by himself. Bob called and whistled, but Freckles did not come back to him. After a while Bob heard Freckles barking a long way off. Bob walked toward the sound of the barking until he found Freckles. Freckles thought he had caught a black and white kitten. But it wasn't a kitten, it was a skunk. That night Freckles had to sleep outside.

1. What was the dog called? *(Freckles)*
2. Why did he have that name? *(brown spots on nose)*
3. Why did Bob take the dog to the woods? *(to find rabbits)*
4. What happened one day? *(Freckles ran off)*
5. How did Bob find Freckles? *(heard him barking)*
6. What did Freckles think he had caught? *(kitten)*
7. What did Freckles really catch? *(skunk)*
8. Why did Freckles have to sleep outside? *(he smelled)*

3C Time_____Errors (9)_____Comp (5)_____

One day Bob took a trip to the zoo. First he went to the great big lion house. He was a little frightened when the lions began to roar. The cages were clean but the lions didn't seem to like them because they kept walking up and down, roaring and switching their tails. Bob was glad that there was a strong fence around the lions.

On the way out of the park, Bob stopped to watch the other animals. He saw a black wolf and a red fox in their cages. The keeper was feeding the wolf from a pail of food. The keeper didn't enter the cage, but he pushed the food through the bars to the wolf.

1. Where did Bob go one day? *(zoo)*
2. What did he visit first? *(lions or lion house)*
3. How did he feel when the lions roared? *(frightened or afraid)*
4. How did he know that the lions didn't like their cages? *(walked up and down, roared or switched their tails)*
5. Where did Bob go after the lion house? *(watch other animals)*
6. What other animals did he see? *(wolf or fox)*
7. What was happening to them? *(being fed)*
8. Why didn't the keeper go into the cages? *(afraid they'd bite)*

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4B Time_____Errors (12)_____Comp (5)_____

Mary's teacher took her class for a nature walk one sunshiny day last week. Every time the group came to a new plant, they would stop and examine it while the teacher explained its parts. She showed them how a bee gets its honey from flowers and how a bug had eaten part of the leaves from some plants. On a few plants, the flowers had fallen off, and seeds had begun to form.

Later, while they were looking at some blossoms, one boy spied a nest hidden in a tree. They were very quiet, hoping that the mother would return to feed her young ones. Sure enough, she quickly came back with a fat, juicy worm in her bill. She fed the young ones, chirped a little, and then flew away after more worms. Mary's teacher said that birds eat a great deal every day. They help us by eating insects that would destroy our plants and by eating weed seeds.

1. When did the class go for a nature walk? *(last week).*
2. What did the class do with each new plant? *(stop and look at it)*
3. What did the teacher show them about bugs? *(how bugs eat plants)*
4. What did one boy see? *(nest)*
5. What did the class do then? *(waited for mother bird or kept quiet)*
*6. What did the mother bird do? *(any two—brought worm, fed young, flew away, chirped)*
7. Why was the mother bird so busy? *(baby birds eat a lot)*
8. How do birds help us? *(eat insects or weed seeds)*

*Two facts must be given to receive full credit. Half credit is given for a partial answer. In all other questions, full credit is given for any one of the possible answers.

5A Time_____Errors (14)_____Comp (5)_____

As a ship's boy, John Paul had all sorts of odd jobs on board. Sometimes he scrubbed decks or helped the cook. He cleaned the captain's cabin and ran errands, but he had other duties that pleased him more. He helped to clean the guns, which the merchant ship carried for protection. And several times he stood behind the big wheel to steer the ship.

Captain Benson wrote in the ship's log, or daily record, that the trip was calm and smooth-sailing. Nothing unusual happened, but every day was real adventure for the new ship's boy. At the end of the voyage it was a thrill to sight land. When the ship docked near Fredericksburg, Virginia, John Paul was waiting to go on shore.

John Paul's brother had a tailor shop in Fredericksburg and was very happy in his new home. He was eager to talk about the wonderful country, but John Paul already loved America. During the next few years John Paul visited America often. He became used to the free and democratic ways of the new country. Meanwhile he had learned to be an expert sailor. Although he was not tall, he was strong and quick. With his long arms he could haul or trim a sail with the best of men.

1. What was John Paul's job called? *(ship's boy)*
*2. What did John Paul do on the ship? *(any two—scrubbed, helped cook, cleaned cabins, ran errands, cleaned guns, steered)*
3. What duties did he like? *(clean guns or steer ship)*
4. What kind of a trip did the ship have? *(calm or smooth-sailing)*
5. Where did the ship dock in America? *(Fredericksburg or Virginia)*
6. What kind of work did John Paul's brother do? *(tailor)*
7. How many trips to America did John Paul make? *(several or many)*
*8. What did John Paul look like? *(any two — not tall, strong, quick, long arms)*

*Two facts must be given to receive full credit. Half credit is given for a partial answer. In all other questions, full credit is given for any one of the possible answers.

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68 Time _____ Errors (13) _____ Comp (5) _____

When the early settlers came to America, trade was carried on by barter or by using such things as tobacco, sugar, and furs as money. Sometimes the settlers used Indian wampum. Wampum was shells that were made into beads and was used by the Indians as decoration and as money. Of course, when more people came from Europe to settle in America, they found they would need money to pay workmen: A mason did not always want to take furs for his pay. A furrier did not always want his wages in grain or tools. People had to have coins, so they used whatever was available – English shillings, Swedish and Dutch money, and Spanish dollars or "pieces of eight." The colonists soon found there were not enough of these to go around.

England would not let her colonists make any money of their own. But in 1652, Massachusetts set up a mint and made her own coins anyway. Among these were the famous "pine-tree shillings." They were called this because the picture of a pine tree was stamped on them. These pine-tree shillings were made for thirty-four years, but they all had the same date on them. In this way the colonists pretended that they were obeying England.

*1. What did the early settlers use in place of money? *(any two – tobacco, sugar, furs, wampum, or shells)*

2. What kind of money did the Indians use? *(wampum or shells)*

*3. How might a workman have been paid? *(any two – grain, tools, furs, tobacco, sugar, wampum, money)*

4. Since they had no coins of their own, what kind of money did the colonists use? *(any one – Spanish, Dutch, Swedish, English, Indian, or wampum)*

5. What did the colonists finally do about money? *(made their own)*

6. Where was this money made? *(Massachusetts)*

7. What was the design stamped on these coins *(pine tree)*

8. What were the coins called? *(pine-tree shillings)*

*Two facts must be given to receive full credit. Half credit is given for a partial answer. In all other questions, full credit is given for any one of the possible answers.

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7B Time_____Errors (13)_____Comp (5)_____

One of the most beautiful and lasting kinds of building stone is marble. Marble may be pure white or colored, or it may have streaks in it. It can be polished so that it has a very smooth surface. All marble was once limestone. Limestone, deep under the ground, may be changed to marble by heat and pressure.

Granite is another very good building stone. It is formed from rock so hot that it is liquid. You may have seen pictures of liquid rock, or lava, pouring out of volcanoes. Lava cools and becomes rock rather quickly. But granite is made from the hot liquid held underground. This rock cools very slowly. The liquid rock from which granite comes cools so slowly that the different materials in it separate from one another and form crystals. Granite is always a speckled rock because the different crystals in it are of different colors. Two minerals are always found in granite. They are quartz and feldspar. The dark speckles in granite are usually some other mineral. Granite makes very good building material because it is so hard. It can be beautifully polished, and the weather does not harm it.

*1. Is marble always white? *(no)* How else may it look? *(colored or streaked)* (both answers)
2. What does marble come from? *(limestone)*
3. What happens to limestone under heat and pressure? *(changes to marble)*
4. What happens to liquid rock that cools slowly *(forms granite)*
5. What happens to the minerals in liquid rock that cools slowly? *(separate to form crystals)*
6. Why is granite speckled? *(different-colored crystals or minerals)*
*7. What two minerals are always found in granite *(quartz, feldspar)*
8. Why does granite make a good building stone *(hard, or can be polished, or doesn't wear away*

*Two facts must be given to receive full credit. Half credit is given for a partial answer. In all other questions, full credit is given for any one of the possible answers.

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8A Time____ __Errors (12)_____Comp (5)_____

One very important reason for slow reading is lack of pre-planning. Many slow readers have not learned to adapt their rate to the difficulty of the material they are reading. They can see objects quickly with their eyes, as in looking through the window of a moving car, but when they read, the same quick movements are not present. They stop to look at each individual word as though that were necessary for gaining ideas. They tend to read their textbooks, magazines, and even the newspaper at about the same rate of speed.

It has been shown by many studies of good readers that the rate in fiction material should be two or three times as fast as that in non-fiction. Slow readers tend to "study" everything they read, while good readers vary their rate consciously according to the kinds of facts they want to get. For example, if a student is trying to find only one fact on a page, he certainly does not need to read the entire page. He can skim quickly over the page until he finds the fact he is seeking. If, on the other hand, he is expected to report critically on a piece of prose, he will need to read much more slowly and analytically.

1. Why do many people read slowly? *(any one – lack of pre-planning, read each word, ignore difficulty, study everything, or not change rate)*
2. What can slow readers do with their eyes that proves they could read faster *(see quickly or see moving things)*
3. How do slow readers read textbooks, magazines, or newspapers? *(same slow rate)*
4. Which should be read faster, fiction or non-fiction? *(fiction)*
5. Do good readers always use the same fast rate? *(no)*
6. How do you know? *(vary rate; or sometimes fast, sometimes slow; or according to purpose)*
7. When would it be good to read slowly? *(studying or reading critically)*
8. When would it be good to read quickly? *(skimming or looking up a fact or reading fiction)*

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Appendix D

TABLE 1

RELIABILITY COEFFICIENTS AND RELATED DATA FOR THE DIAGNOSTIC READING SCALES

DIAGNOSTIC SCALE	NO OF CASES	RELIABILITY COEFFICIENT*	S.E. MEAS.	TEST		RETEST	
				Mean	S.D.	Mean	S.D.
Instructional Level	82	.84	.86	3.1	3.4	3.7	3.4
Independent Level	80	.88	.48	3.8	3.4	4.1	3.5

*Computed by test-retest

TABLE 2

RELIABILITY COEFFICIENTS AND RELATED DATA FOR WORD RECOGNITION LISTS

WORD RECOGNITION LIST	NO OF CASES	POSSIBLE SCORE	RELIABILITY COEFFICIENT*	RAW SCORE		
				Mean	S.D.	S.E. Mean
List 1	80	80	.96	27.7	13.1	2.6
List 2	80	40	.87	24.7	9.3	3.4
List 3	80	40	.91	25.8	10.3	3.1

TABLE 3

VALIDITY COEFFICIENTS AND RELATED COMPARISON DATA BETWEEN THE CALIFORNIA READING TEST AND THREE VARIABLES OF THE DIAGNOSTIC READING SCALES

DIAGNOSTIC READING SCALES	GRADE	NO OF CASES	DIAGNOSTIC READING		VALIDITY COEFFICIENT*	CALIFORNIA READING	
			Mean	S.D.		Mean	S.D.
Word Recognition	2	107	3.0	1.3	.87	3.1	1.0
	3	116	3.9	1.6	.92	3.9	1.2
	4	70	5.4	1.3	.82	5.4	1.1
	5	92	6.0	1.0	.63	6.9	1.3
	6	24	6.1	0.6	.71	7.3	1.3
Instructional Level	2	107	2.9	1.7	.82	3.1	1.0
	3	116	3.7	1.7	.87	3.9	1.2
	4	70	5.4	1.8	.78	5.4	1.1
	5	92	6.3	1.6	.77	6.9	1.3
	6	24	6.3	1.2	.67	7.3	1.3
Independent Level	2	107	2.8	1.7	.79	3.1	1.0
	3	116	3.6	1.8	.79	3.9	1.2
	4	70	5.0	1.6	.66	5.4	1.1
	5	92	6.1	1.8	.74	6.9	1.3
	6	24	6.4	1.8	.64	7.3	1.3

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Appendix F

CALCULATING PERCENTAGES
OF WORD RECOGNITION AND COMPREHENSION

Word Recognition	Sample
Take the number of miscues on a particular passage:	7
Divide by the number of words in the total passage:	÷ 100

$$100 \overline{)\ 7.00} \quad .07$$

Subtract the quotient from 1.00

$$\begin{array}{r} 1.00 \\ -\ .07 \\ \hline .93 \end{array}$$

Word Recognition = 93 percent

Comprehension	Sample
Take the number of incorrect answers for a particular passage:	2
Divide by the number of questions:	÷ 10

$$10 \overline{)2.00} \quad 20$$

Subtract the quotient from 1.00

$$\begin{array}{r} 1.00 \\ -\ .20 \\ \hline .80 \end{array}$$

Comprehension = 80 percent[30]

[30]Roger Farr and Nancy Roser (1979), op. cit., p. 49.